

CLAIMS

1. A method of repairing a turbine rotor by performing build-up welding on a rotor material so as to form a repaired portion thereon,

5 wherein said build-up welding is achieved by performing thin-layer build-up welding at a high deposition rate whereby said repaired portion is formed as a result of beads for thin-layer build-up welding being laid in layers.

2. A method of repairing a turbine rotor as claimed in claim 1,

10 wherein said thin-layer build-up welding at a high deposition rate is achieved by performing arc welding using an electrically conductive flux.

3. A method of repairing a turbine rotor as claimed in claim 1,

15 wherein said repaired portion is formed by first performing build-up welding at a comparatively low deposition rate from a first layer of said repaired portion up to a predetermined height and then performing build-up welding at a comparatively high deposition rate for a remaining portion of said repaired portion.

4. A method of repairing a turbine rotor as claimed in claim 2,

20 wherein said repaired portion is formed by first performing build-up welding at a comparatively low deposition rate from a first layer of said repaired portion up to a predetermined height and then performing build-up welding at a comparatively high deposition rate for a remaining portion of said repaired portion.

5. A method of repairing a turbine rotor as claimed in claim 1,
wherein a groove is formed in said repaired portion in order to restore a rotor blade
groove.

5 6. A method of repairing a turbine rotor as claimed in claim 2,
wherein a groove is formed in said repaired portion in order to restore a rotor blade
groove.

7. A method of repairing a turbine rotor as claimed in claim 3,
10 wherein a groove is formed in said repaired portion in order to restore a rotor blade
groove.

8. A method of repairing a turbine rotor as claimed in claim 4,
wherein a groove is formed in said repaired portion in order to restore a rotor blade
15 groove.

9. A method of repairing a turbine rotor as claimed in claim 1,
wherein said thin-layer build-up welding at a high deposition rate is achieved by a
welding method with a deposition rate higher than TIG welding.